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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/814,143

04/01/2004

Koji Matsuoka

2936-0213PUS1

7355

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7590

07/21/2006

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EXAMINER

CHOWDHURY, TARIFUR RASHID

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 07/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/814,143	MATSUOKA ET AL.	
	Examiner	Art Unit	
	Tarifur R. Chowdhury	2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-10 is/are allowed.
- 6) ☒ Claim(s) 1-6, 11 and 12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>04/24/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on April 24, 2006 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2871

4. Claims 1, 5, 6, 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warashina Noboru (Warashina), JP 09-105809 (provided by the applicant).

Warashina discloses and shows in Figs. 1-4, a production of a color filter for liquid crystal display, with the following technical features, "comprising bonding a colored film (6) on a substrate having a resin black matrix (7) formed thereon" (col. 7, line 11 to col. 9, line 24).

Warashina differs from the claimed invention because he does not explicitly disclose that "forming beforehand a height difference in the resin black matrix so than an edge portion of the resin black matrix located on an upstream side with respect to a direction in which the colored film is bonded is made lower than another portion of the resin black matrix". However, it is common and known in the art that when the pasting material overlaps wall of resinous black matrix material in pasting colored layers, foaming is apt to be generated to thus result in the degraded quality of the generated image, those skilled in the art would easily think of forming beforehand a height difference in the resin black matrix according to the working experience and common knowledge in the art to thereby reduce the foaming productivity without costing any inventive labor. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form beforehand a height difference in the resin black matrix so than an edge portion of the resin black matrix located on an upstream side with respect to a direction in which the colored film is bonded is made lower than

Art Unit: 2871

another portion of the resin black matrix on the basis of Warashina combined with the aforesaid common knowledge.

Accordingly, claims 1, 11 and 12 would have been obvious.

As to claim 5, the claimed limitation relate to specific parameters of the width of the edge portion of the black matrix. These parameters are selected from a possible and limited scope. However, such selection may be made by those skilled in the art through conventional means without costing any inventive labor. Also use of this common knowledge is obvious to those skilled in the art to obtain an optimum device.

As to claim 6, the claimed limitation is related to a specific parameters of a height difference between a top surface of the edge portion of the resin black matrix. These parameters are selected from a possible and limited scope. However, such selection may be made by those skilled in the art through conventional means without costing any inventive labor. Also use of this common knowledge is obvious to those skilled in the art to obtain an optimum device.

5. Claims 2-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Warashina in view of Sakamoto et al., (Sakamoto), JP 2000-105310 (provided by the applicant).

6. Warashina differs from the claimed invention because he does not explicitly disclose that the resin black matrix is formed of a negative resist by a process involving exposure through openings formed in a mask followed by post development.

Sakamoto discloses forming resin black matrix of a negative resist by a process involving exposure through openings formed in a mask followed by post development

(col. 4, line 5 – col. 6, line 7; Figs. 1-2). Also, the technical features of Sakamoto attain the same effect of forming the resin black matrix as that in the present application. The other limitations of claim 2 are common and known in the art. In order to form the black matrix whose edge portion is lower than the other portion thereof, those skilled in the art according to common knowledge easily think of forming a plurality of minute openings in a portion of the mask corresponding to the edge portion of the resin black matrix without costing inventive labor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to form the black matrix of a negative resist by exposure through openings formed in a mask followed by development, and forming a plurality of minute openings in a portion of the mask corresponding to the edge portion of the resin black matrix so that the edge portion of the resin black matrix is made thinner than the adjacent portion for advantages such as to prevent drop-out and color irregularity and increase production yield.

Accordingly, claim 2 would have been obvious.

As to claim 3, the limitation such as the minute openings formed in the mask is substantially circular, elliptic or polygonal in shape are considered as routine skill in the art and thus would have been obvious since such selection of shapes can be made by those skilled in the art through conventional means without costing any inventive labor.

As to claim 4, it is common and known in the art that different locations in the mask have different parameter requirements for forming the resin black matrix. As a result those of ordinary skill in the art easily think of varying parameters of the minute

Art Unit: 2871

openings according to different locations in producing the black matrix whose edge portion is lower than the other portion without costing any inventive labor.

Allowable Subject Matter

7. Claims 7-10 are allowed.

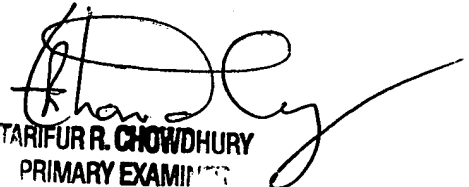
Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tarifur R. Chowdhury whose telephone number is (571) 272-2287. The examiner can normally be reached on M-Th (6:30-5:00) Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nelms C. David can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

TRC
July 19, 2006


TARIFUR R. CHOWDHURY
PRIMARY EXAMINER